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10/582,198	06/09/2006	Yang Shen	0002860USU/4137	3977

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OHLANDT, GREELEY, RUGGIERO & PERLE, LLP  
ONE LANDMARK SQUARE, 10TH FLOOR  
STAMFORD, CT 06901

EXAMINER
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FULTON, KRISTINA ROSE

ART UNIT	PAPER NUMBER
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3673

MAIL DATE	DELIVERY MODE
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06/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,198	<b>Applicant(s)</b> SHEN, YANG	
	<b>Examiner</b> KRISTINA R. FULTON	<b>Art Unit</b> 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 7-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is in response to the RCE submitted 3/26/09. Claims 1-6 are cancelled. Claims 7-27 are pending and newly rejected below.

### ***Claim Objections***

1. Claim 22 is objected to because of the following informalities: line 8, delete the ")" after "piece". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 9 and 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claim 9, the language of claim 9 is unclear as "a toothed piece" is already claimed in claim 7. Language such as "the toothed piece on the toothed piece" should be clarified by describing one of the toothed pieces differently in order to distinguish the components. The examiner has examined the claim "as best understood" to mean "the toothed slide and the toothed piece engage via teeth on the toothed slide".
4. Claim 21 recites the limitation "the locking groove" in line 1. There is insufficient antecedent basis for this limitation in the claim.

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5. Regarding claim 22, line 7 requires the sliding block to abut against the locking block. The limitation is unclear as the locking block appears to only engage the toothed piece and not the sliding block. The locking block can indirectly abut against the sliding block via the toothed piece and has been interpreted as such. If applicant intended the claim to read as currently stated, a drawing objection will be required as this abutment between the sliding block and locking block must be shown.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 7-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loreti (US 6119495).

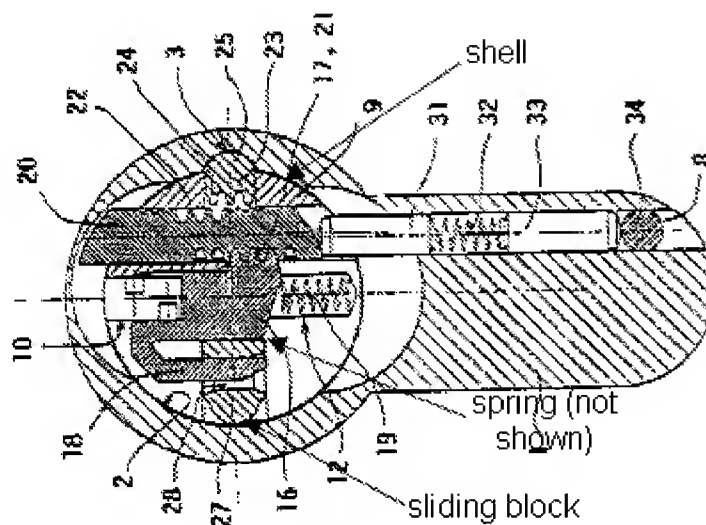
4. Regarding claim 7, Loreti shows a key-changeable lock (see Loreti abstract), comprising, in combination: a lock housing (1), a lock cylinder (9) for rotation within the

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lock housing about a rotational axis, the lock cylinder including a locking block (23) slidably mounted on a periphery of locking cylinder, and having a first working position and a second working position (see figures 17 and 19 where 23 is in two different positions and therefor slidably mounted), wherein the locking block extends from the lock cylinder to engage the lock housing (figure 17, 23 extends into 3), thereby directly preventing rotation of the lock cylinder relative the lock housing in the first working position, and wherein the locking block at least partially retracts into the lock cylinder (figure 19, where 23 engages 20 to retract into the cylinder) to allow rotation in the second working position (figure 18 shows that 23 is now aligned with teeth 22 of 20 so it can drop and the cylinder will rotate), a toothed piece (20) with a block groove (22) that moves (see figures 17 and 18 for movement of 20) to allow or block retraction of the locking block into the lock cylinder (figure 17 will not allow alignment of 23 into 22 but figure 18 shows proper alignment), a toothed slide (16) that moves in the lock cylinder transverse to the rotational axis, the toothed slide having an engaged and disengaged position with the toothed piece (figures 18 and 19 show transverse movement of 16 in order to disengage 20), the toothed piece moves in a fixed relationship with the toothed slide when in the engaged position (figure 18 when a correct key is inserted), and in an independent relationship when in the disengaged position (figure 19 where 16 is reset to a new key and does not move 20), a sliding block (27) that moves the toothed slide between the engaged and disengaged positions (via springs 30), and a locking hole (10) provided on or in the lock cylinder and into which a key (c) is inserted, wherein insertion of a first key into the locking hole moves the toothed slide and in turn the

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toothed piece into the engaged position (figure 18), so that the block groove allows retraction of the locking block into the lock cylinder, wherein rotation of the first key in turn rotates the lock cylinder, the locking block retracts into the lock cylinder sliding into the blocking groove (figure 19), wherein retraction of the locking block into the lock cylinder prevents the toothed piece from moving (column 7, lines 14-17), and slides the sliding block linearly in a direction perpendicular to the rotational axis to disengage the toothed slide from the toothed piece (27 moves perpendicular to the axis as shown in figures 18 and 19), and wherein removal of the first key and insertion of a second key moves the toothed slide (figure 21) to establish a new engagement position between the toothed slide and the toothed piece, so that the second key now locks and unlocks the key changeable lock (column 7, lines 22-26). Please note that although Loreti does not specifically state that the lock block directly prevents rotation of the lock cylinder, this is obvious from the figures of Loreti. See figures 2, 12 and 17, where the cylinder (9) can not possibly rotate while the locking block (23) is in the housing (at 3). One skilled in the art would know from the figures and from common practice in the art that the locking block (23) directly prevents rotation of the cylinder (9). See the Loreti device below.



5. Regarding claim 8, the first key is removed and the second key is inserted when the lock cylinder is in a partially rotated position (figure 19; column 7, lines 10-11, where a "change position" is partially rotated).
6. Regarding claim 9, wherein the engagement of the toothed slide (16) with the toothed piece (20) is via a toothed piece (17) on the toothed slide, thereby engaging the toothed piece (17) on the toothed piece (20), there being more teeth on one than the other to allow the independent relationship (20 has more teeth than 16).
7. Regarding claim 10, the block groove (22) on the toothed piece runs parallel to the locking block (23), the toothed piece blocks retraction of the locking block, other than when the toothed piece is moved to allow the locking block to retract into the blocking groove (see figure 17 where 23 can not retract into 22).
8. Regarding claim 11, the locking block (23) slides into the block groove (22), and is held in the block groove by the profile of the lock housing around the lock cylinder, when the lock is unlocked. Figure 18 shows where 23 would drop into 22 and rotated to

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an unlock position with the correct key where 23 would be held by the profile of the housing as shown in figure 19.

9. Regarding claim 12, the sliding block (27) is moved by the locking block via pins (31) extending between the locking block and the sliding block. Please note that pins (31), located below 23 and above 27 as in figure 18, move toothed piece (20) which allows locking block (23) to move, allowing indirect movement of sliding block (27).

10. Regarding claim 13, springs (30) are between the sliding block and a shell (the entire outer edge surface of cylinder 9; see figure labeled above) to bias the sliding block and the toothed slide into the engaged position (as shown in figure 17).

11. Regarding claim 14, a compression spring (30) is provided to bias the sliding block and in turn the toothed piece, when in the engaged position, to block retraction of the locking block. Please note that 30 biases 27 in figure 17 against the "shell" as labeled above causing engagement between the sliding block and toothed slide and the toothed slide and tooth piece blocking retraction of the locking block.

12. Regarding claim 15, the compression spring is between the toothed slide and the sliding block (see figure 1).

13. Regarding claim 16, the sliding block and the toothed slide move parallel to one another (figures 18 and 19 show the parallel movement of 27 and 16 in the up/down direction).

14. Regarding claim 17, the sliding block moves perpendicular to the toothed piece. See figures 17 and 18 where 20 has moved left to right and in figures 17 and 18, 27 has moved up and down.

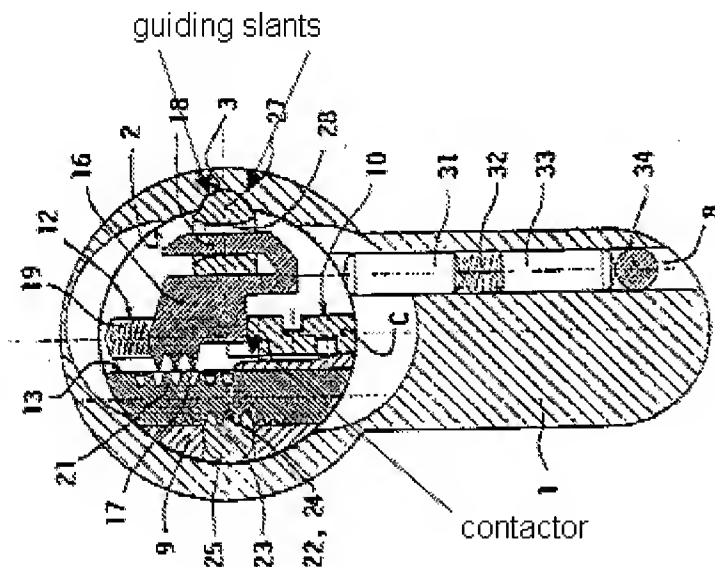


15. Regarding claim 18, the first key is invalid after the new engagement position has been established with the second key (lines 3-4 of abstract).

16. Regarding claim 19, the locking block moves parallel to the sliding block (both the locking block and sliding block move up and down).

17. Regarding claim 20, a contactor (surface shown in figure labeled below) is fixed on the toothed slide and located within the locking hole to engage the second key.

Please note that “a contactor” is very broad and can be an portion “contacted” by the second key.



18. Regarding claim 21, the locking groove (3) is on the lock housing;  
when the locking block is located at the first working position, the locking block is  
received in the locking groove (figure 17); and each side face of the locking groove has  
a guiding slant (see slanted edges labeled in figure above).

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19. Regarding claim 22, Loreti shows a key-changeable lock, comprising, in combination: a lock housing (1); and a lock cylinder (9) rotatable about a rotational axis within the lock housing, the lock cylinder includes a shell (outer surface, see figure labeled above) for the lock cylinder, a locking hole (10) on the shell into which a key (c) is inserted, and a locking block (23) slidably mounted on the shell, a sliding block (27) slidable in the shell linearly in a direction perpendicular to the rotational axis, and positioned to abut against the locking block (via 16 and 20), a toothed slide (16) for sliding in the sliding block (see portion 18 in 27), and a toothed piece (20) having a block groove (22) slidably disposed in the shell, and wherein the locking block has a first working position (figure 17) and a second working position (figure 18), wherein the locking block is not held in the block groove, the lock block extends from the lock cylinder to engage the lock housing (via 3) thereby directly preventing rotation of the lock cylinder relative to the lock housing and the toothed piece engages the toothed slide in the first working position (see figure 17 and explanation of "directly preventing rotation of the lock cylinder" above for claim 7), and wherein the locking block is held in the block groove and at least partially retracts into the lock cylinder to allow relative rotation, and the toothed piece disengages the toothed slide in the second working position (figures 18 and 19 where 23 drops into 22 and 16 and 20 disengage).

20. Claims 23-27 are rejected by claims 13, 15, 17, 20 and 21, respectively, as applied above.

***Response to Arguments***

21. Applicant's arguments with respect to claims 7-27 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTINA R. FULTON whose telephone number is (571)272-7376. The examiner can normally be reached on M-TH 7-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571-272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KRISTINA R FULTON/  
Examiner, Art Unit 3673  
6/7/09